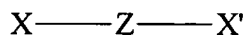


CLAIMS

What is claimed is:

1. An organophotoreceptor comprising an electrically conductive substrate and a photoconductive element on the electrically conductive substrate, the photoconductive element comprising:

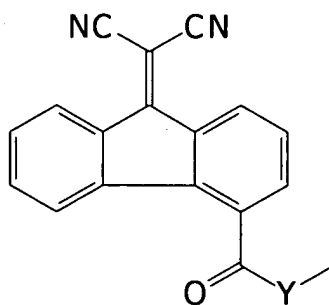
(a) a charge transport material having the formula



where X and X' are, each independently, a (9-fluorenylidene)malononitrile group, and Z is a linking group having the formula $-(CH_2)_m-$, branched or linear, where m is an integer between 1 and 30, inclusive, and one or more of the methylene groups may be replaced by O, S, C=O, Si=O, S(=O)₂, P(=O)₂, an aromatic group, a heterocyclic group, an aliphatic cyclic group, a Si(R₁)(R₂) group, a BR₃ group, a NR₄ group, a CHR₅ group, or a CR₆R₇ group where R₁, R₂, R₃, R₄, R₅, R₆, and R₇ are, each independently, H, halogen, hydroxyl, thiol, an alkoxy group, an alkyl group, an alkenyl group, an aromatic group, a heterocyclic group, or a part of a cyclic ring; and

(b) a charge generating compound.

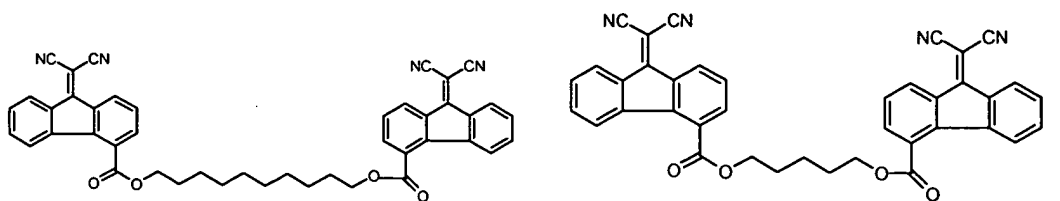
2. An organophotoreceptor according to claim 1 wherein X and X', each independently, have the formula



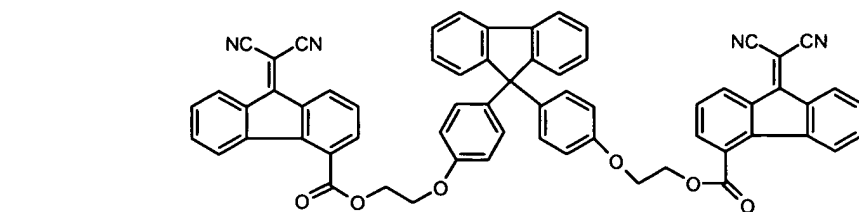
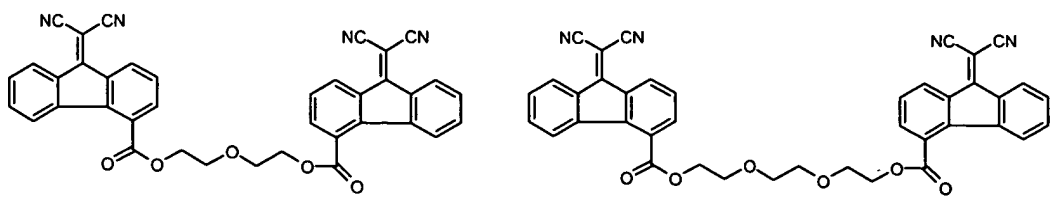
where Y is O, S, or NR₈ and R₈ is H, an alkyl group, an alkenyl group, an aromatic group, or a heterocyclic group.

3. An organophotoreceptor according to claim 1 wherein Z comprises an aromatic group or a heterocyclic group.

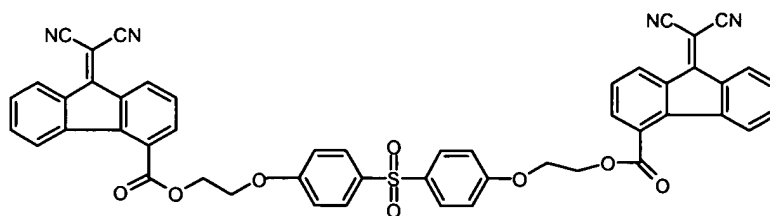
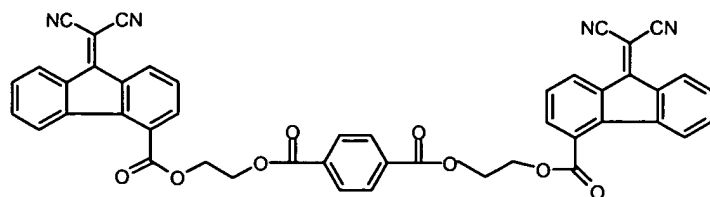
4. An organophotoreceptor according to claim 1 wherein the charge transport material has a formula selected form the group consisting of the following:



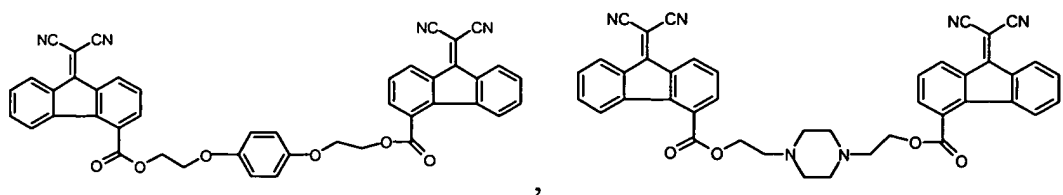
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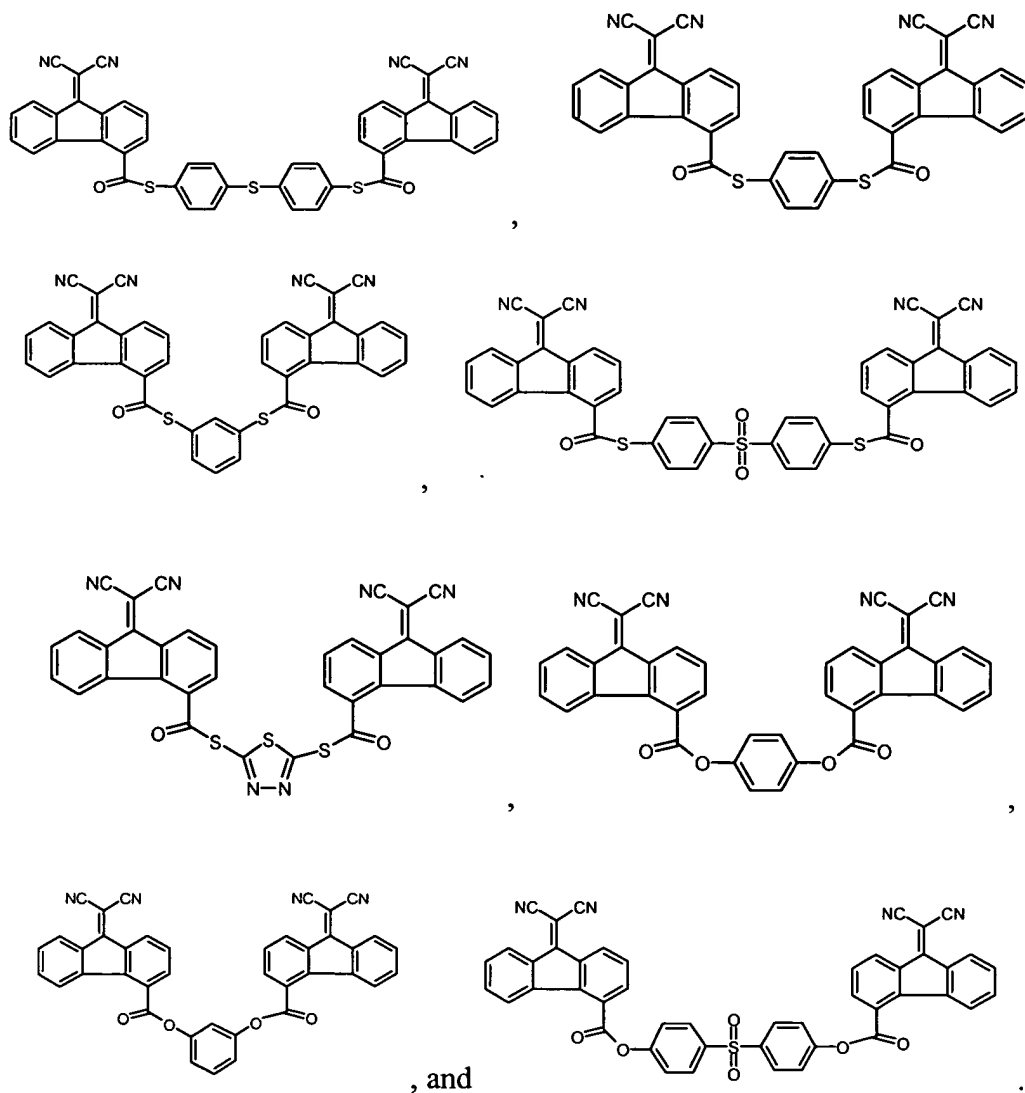


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5. An organophotoreceptor according to claim 1 wherein the photoconductive element further comprises a second charge transport material.

6. An organophotoreceptor according to claim 5 wherein the second charge transport material comprises a charge transport compound.

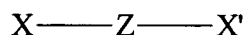
7. An organophotoreceptor according to claim 1 wherein the photoconductive element further comprises a binder.

8. An electrophotographic imaging apparatus comprising:

(a) a light imaging component; and

(b) an organophotoreceptor oriented to receive light from the light imaging component, the organophotoreceptor comprising an electrically conductive substrate and a photoconductive element on the electrically conductive substrate, the photoconductive element comprising:

(i) a charge transport material having the formula

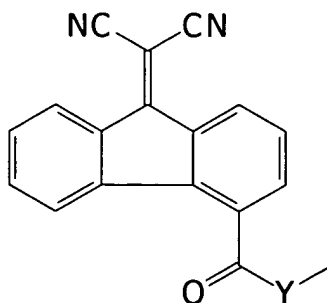


where X and X' are, each independently, a (9-fluorenylidene)malononitrile group, and Z is a linking group having the formula $-(CH_2)_m-$, branched or linear, where m is an integer between 1 and 30, inclusive, and one or more of the methylene groups may be replaced by O, S, C=O, Si=O, S(=O)₂, P(=O)₂, an aromatic group, a heterocyclic group, an aliphatic cyclic group, a Si(R₁)(R₂) group, a BR₃ group, a NR₄ group, a CHR₅ group, or a CR₆R₇ group where R₁, R₂, R₃, R₄, R₅, R₆, and R₇ are, each independently, H, halogen, hydroxyl, thiol, an alkoxy group, an alkyl group, an alkenyl group, an aromatic group, a heterocyclic group, or a part of a cyclic ring; and

(ii) a charge generating compound.

9. An electrophotographic imaging apparatus according to claim 8 wherein X

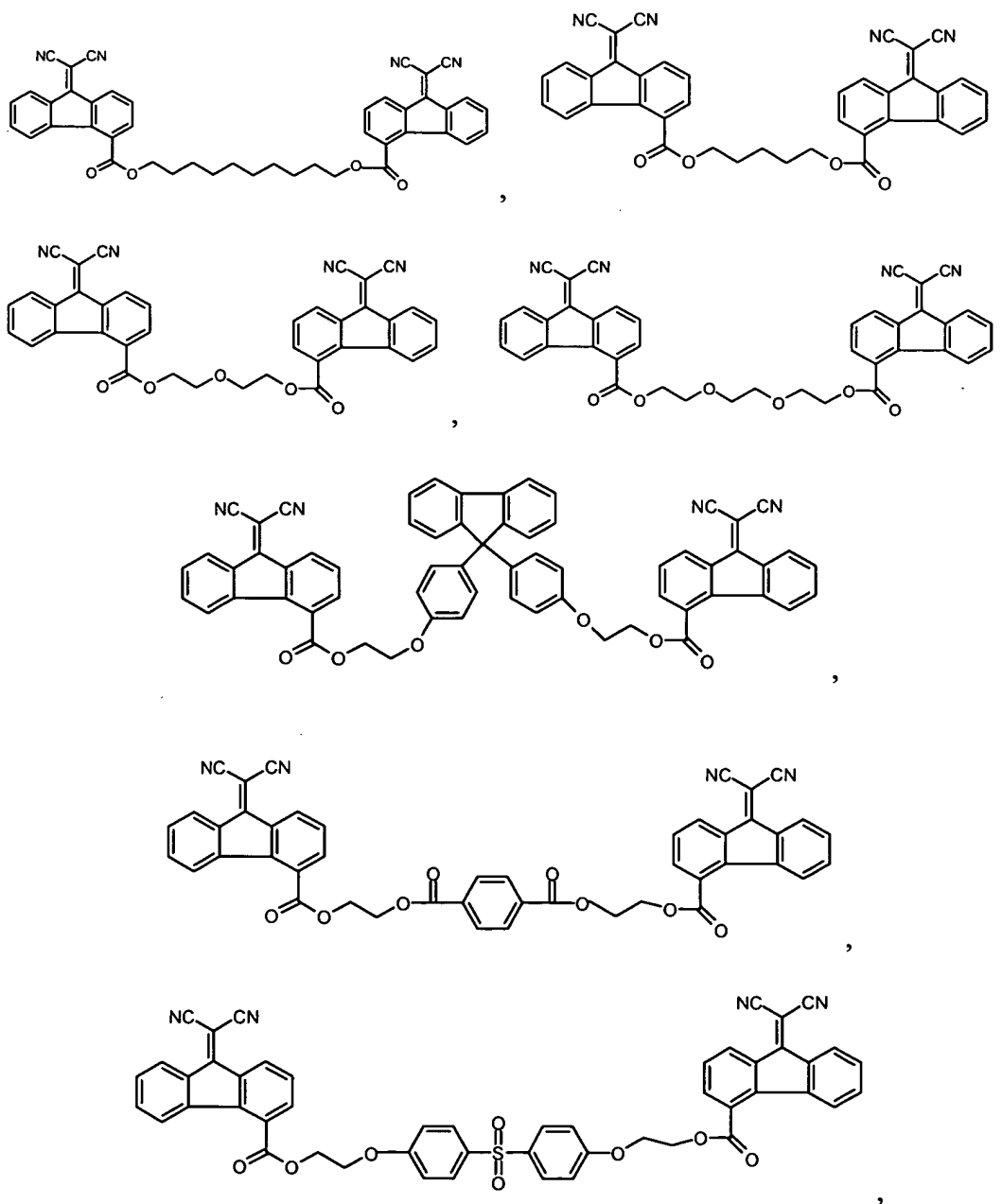
and X', each independently, have the formula

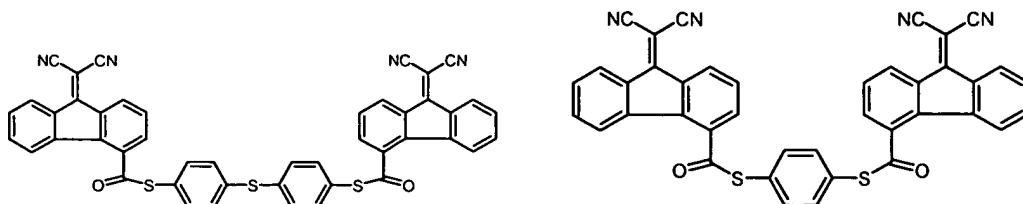
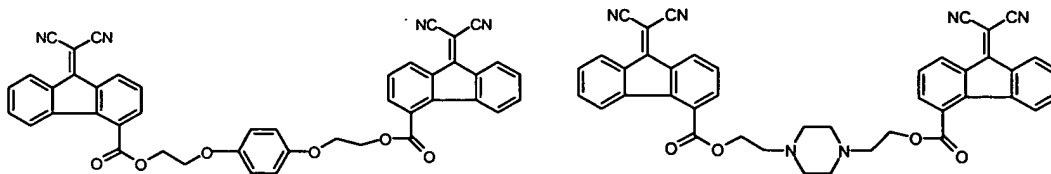


where Y is O, S, or NR₈ and R₈ is H, an alkyl group, an alkenyl group, an aromatic group, or a heterocyclic group.

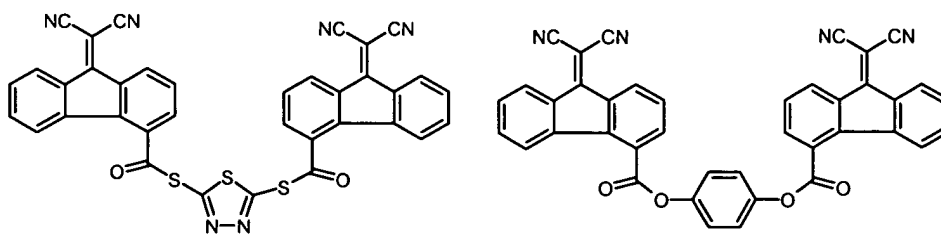
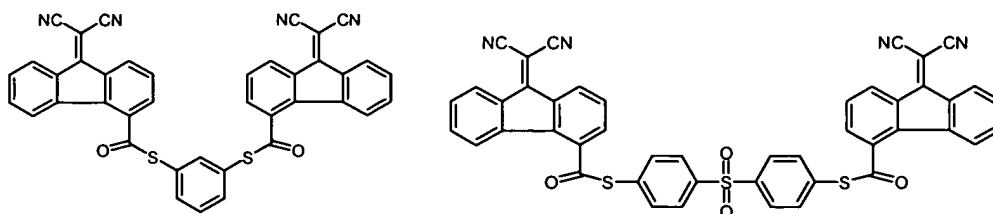
10. An electrophotographic imaging apparatus according to claim 8 wherein Z comprises an aromatic group or a heterocyclic group.

11. An electrophotographic imaging apparatus according to claim 8, wherein
5 the charge transport material has a formula selected from the group consisting of the following:

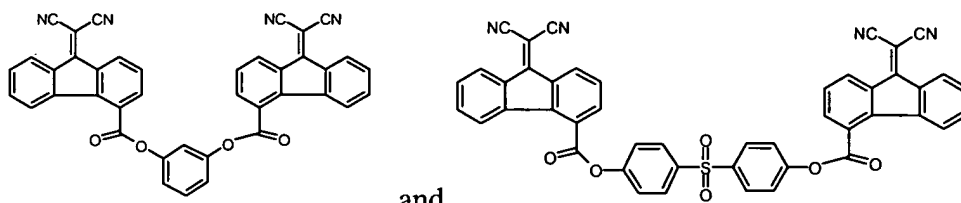




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, and

12. An electrophotographic imaging apparatus according to claim 8 wherein the photoconductive element further comprises a second charge transport material.

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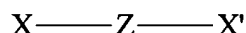
13. An electrophotographic imaging apparatus according to claim 12 wherein second charge transport material comprises a charge transport compound.

14. An electrophotographic imaging apparatus according to claim 8 further comprising a liquid toner dispenser.

15. An electrophotographic imaging process comprising;

5 (a) applying an electrical charge to a surface of an organophotoreceptor comprising an electrically conductive substrate and a photoconductive element on the electrically conductive substrate, the photoconductive element comprising

(i) a charge transport material having the formula



10 where X and X' are, each independently, a (9-fluorenylidene)malononitrile group, and Z is a linking group having the formula $-(CH_2)_m-$, branched or linear, where m is an integer between 1 and 30, inclusive, and one or more of the methylene groups may be replaced by O, S, C=O, Si=O, S(=O)₂, P(=O)₂, an aromatic group, a heterocyclic group, an aliphatic cyclic group, a Si(R₁)(R₂) group, a BR₃ group, a NR₄ group, a CHR₅ group,
15 or a CR₆R₇ group where R₁, R₂, R₃, R₄, R₅, R₆, and R₇ are, each independently, H, halogen, hydroxyl, thiol, an alkoxy group, an alkyl group, an alkenyl group, an aromatic group, a heterocyclic group, or a part of a cyclic ring; and

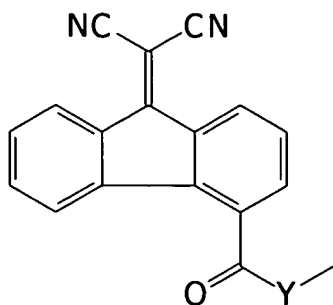
(ii) a charge generating compound.

(b) imagewise exposing the surface of the organophotoreceptor to radiation to
20 dissipate charge in selected areas and thereby form a pattern of charged and uncharged areas on the surface;

(c) contacting the surface with a toner to create a toned image; and

(d) transferring the toned image to substrate.

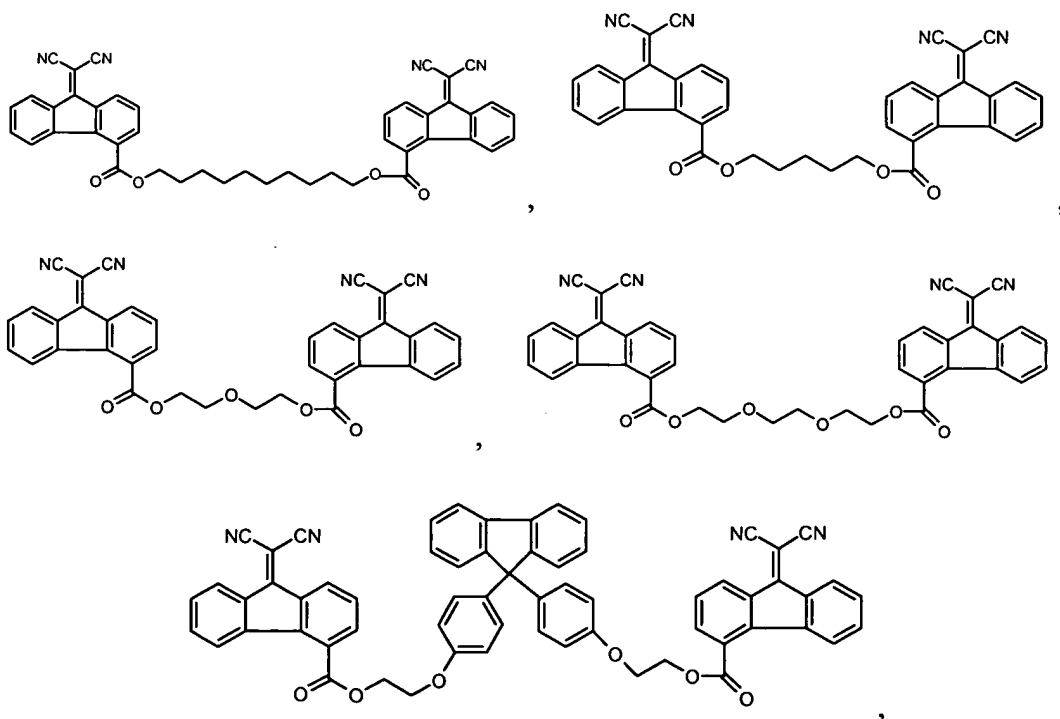
25 16. An electrophotographic imaging process according to claim 15 wherein X and X', each independently, have the formula

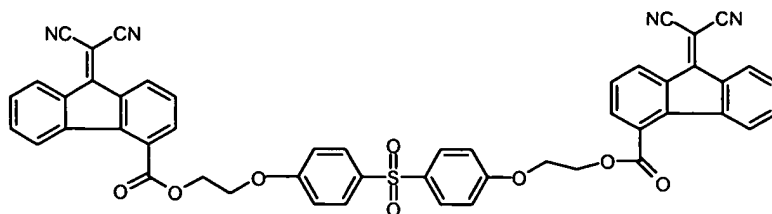
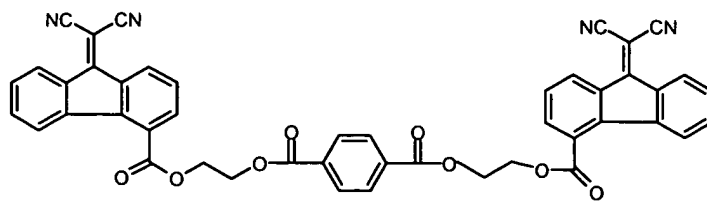


where Y is O, S, or NR₈ and R₈ is H, an alkyl group, an alkenyl group, an aromatic group, or a heterocyclic group.

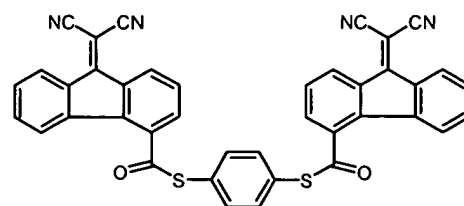
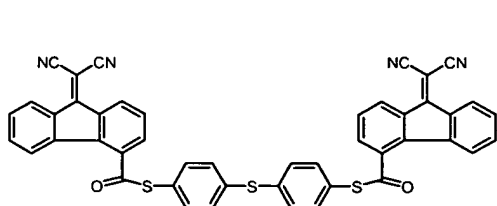
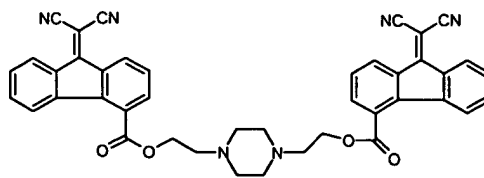
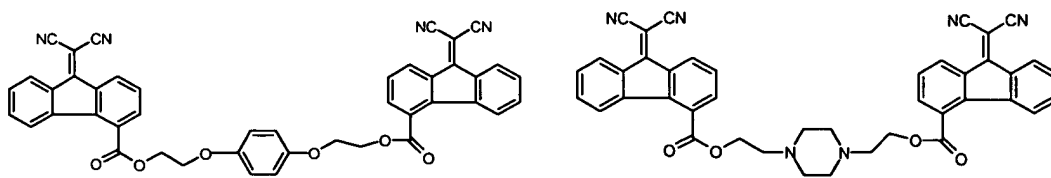
17. An electrophotographic imaging process according to claim 15 wherein Z comprises an aromatic group or a heterocyclic group.

18. An electrophotographic imaging process according to claim 15 wherein the charge transport material has a formula selected from the group consisting of the following:

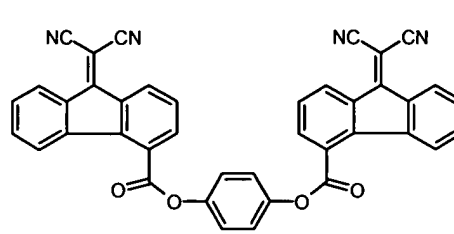
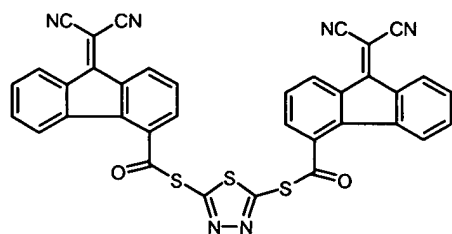
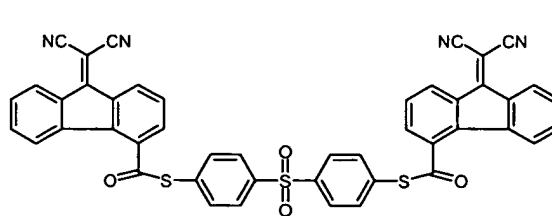
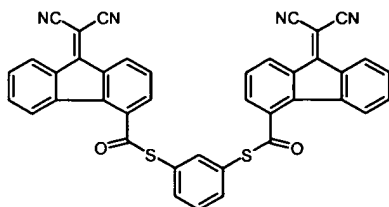




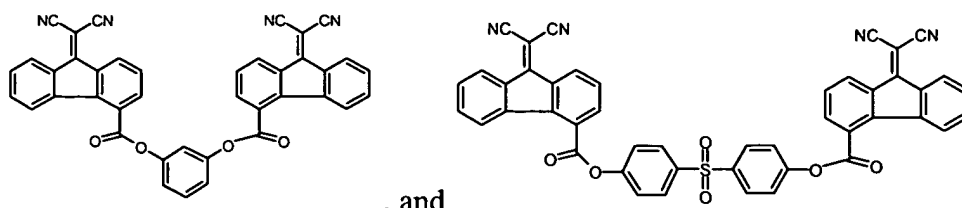
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19. An electrophotographic imaging process according to claim 15 wherein the photoconductive element further comprises a second charge transport material.

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20. An electrophotographic imaging process according to claim 19 wherein the second charge transport material comprises a charge transport compound.

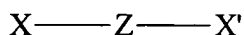
21. An electrophotographic imaging process according to claim 15 wherein the photoconductive element further comprises a binder.

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22. An electrophotographic imaging process according to claim 15 wherein the toner comprises a liquid toner comprising a dispersion of colorant particles in an organic liquid.

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23. A charge transport material having the formula

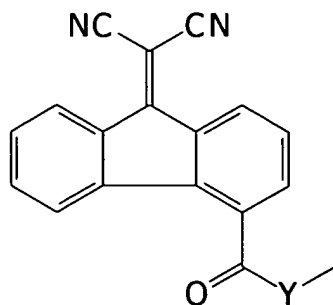


where X and X' are, each independently, a (9-fluorenylidene)malononitrile group, and Z is a linking group having the formula $-(CH_2)_m-$, branched or linear, where m is an integer between 1 and 30, inclusive, and one or more of the methylene groups may be replaced by O, S, C=O, Si=O, S(=O)₂, P(=O)₂, an aromatic group, a heterocyclic group, an aliphatic cyclic group, a Si(R₁)(R₂) group, a BR₃ group, a NR₄ group, a CHR₅ group, or a CR₆R₇ group where R₁, R₂, R₃, R₄, R₅, R₆, and R₇ are, each independently, H, halogen, hydroxyl, thiol, an alkoxy group, an alkyl group, an alkenyl group, an aromatic group, a heterocyclic group, or a part of a cyclic ring.

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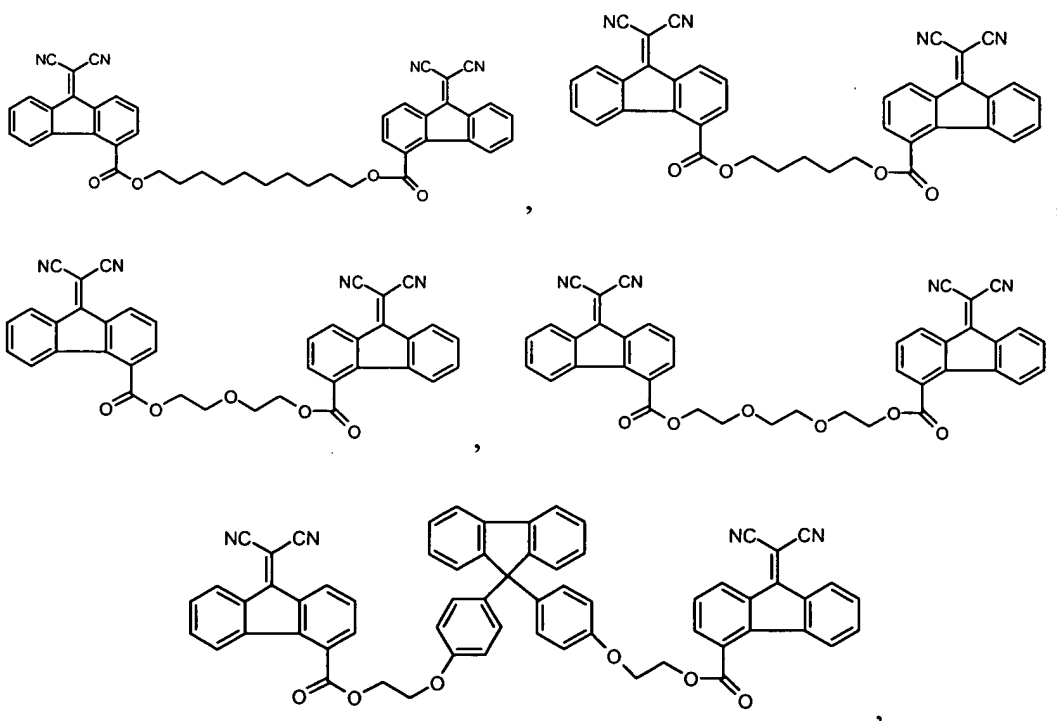
24. A charge transport material according to claim 23 wherein X and X', each independently, have the formula

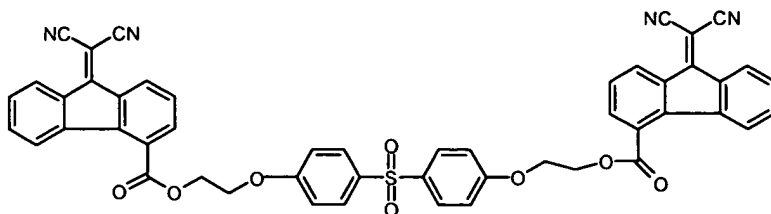
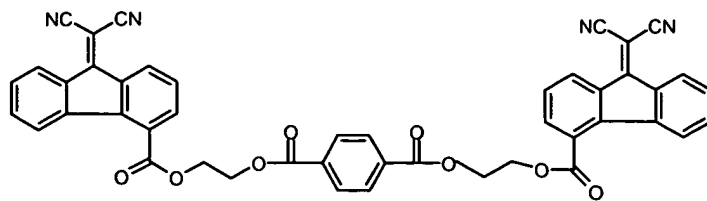


where Y is O, S, or NR_8 and R_8 is H, an alkyl group, an alkenyl group, an aromatic group, or a heterocyclic group.

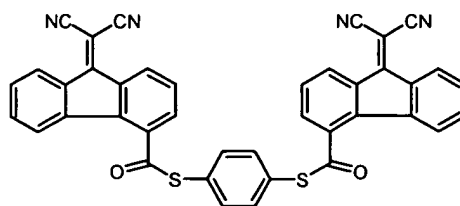
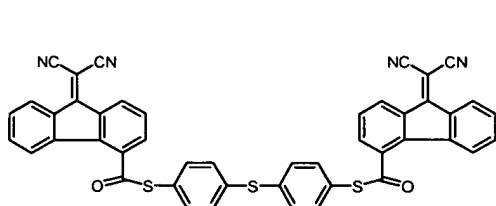
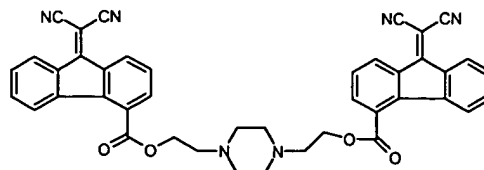
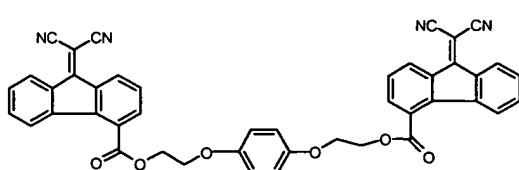
25. A charge transport material according to claim 23 wherein Z comprises an aromatic group or a heterocyclic group.

26. A charge transport material according to claim 23 wherein the charge transport material has a formula selected from the group consisting of the following:

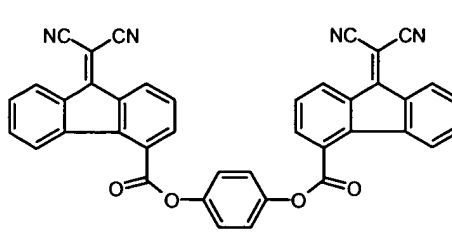
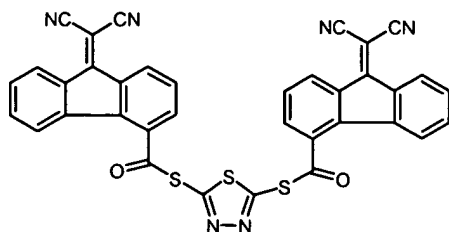
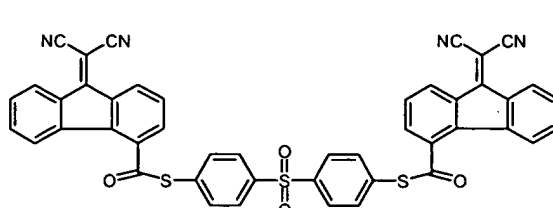
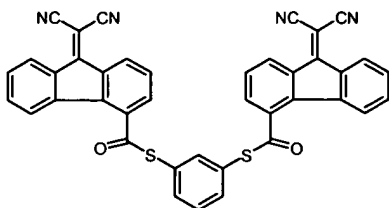




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